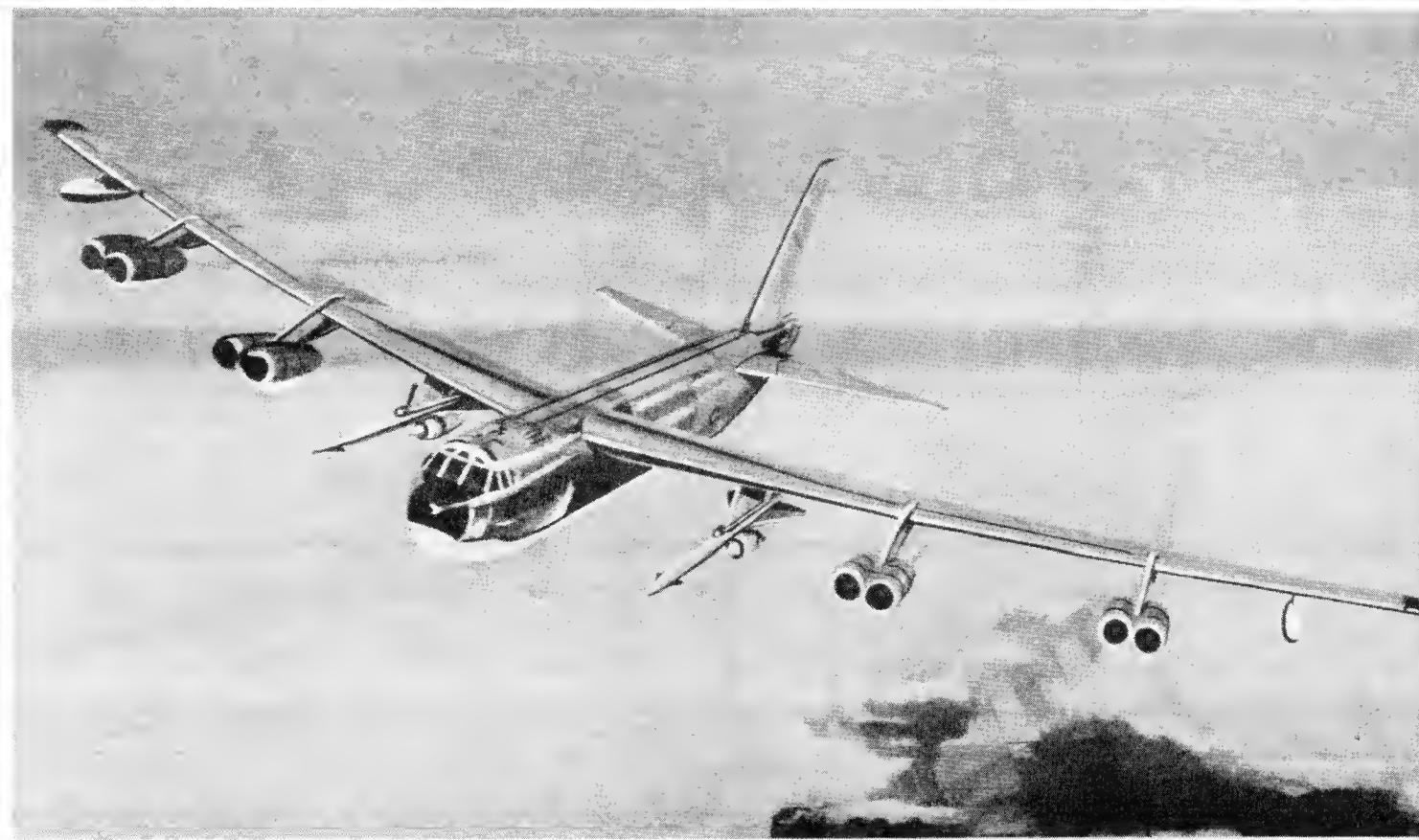


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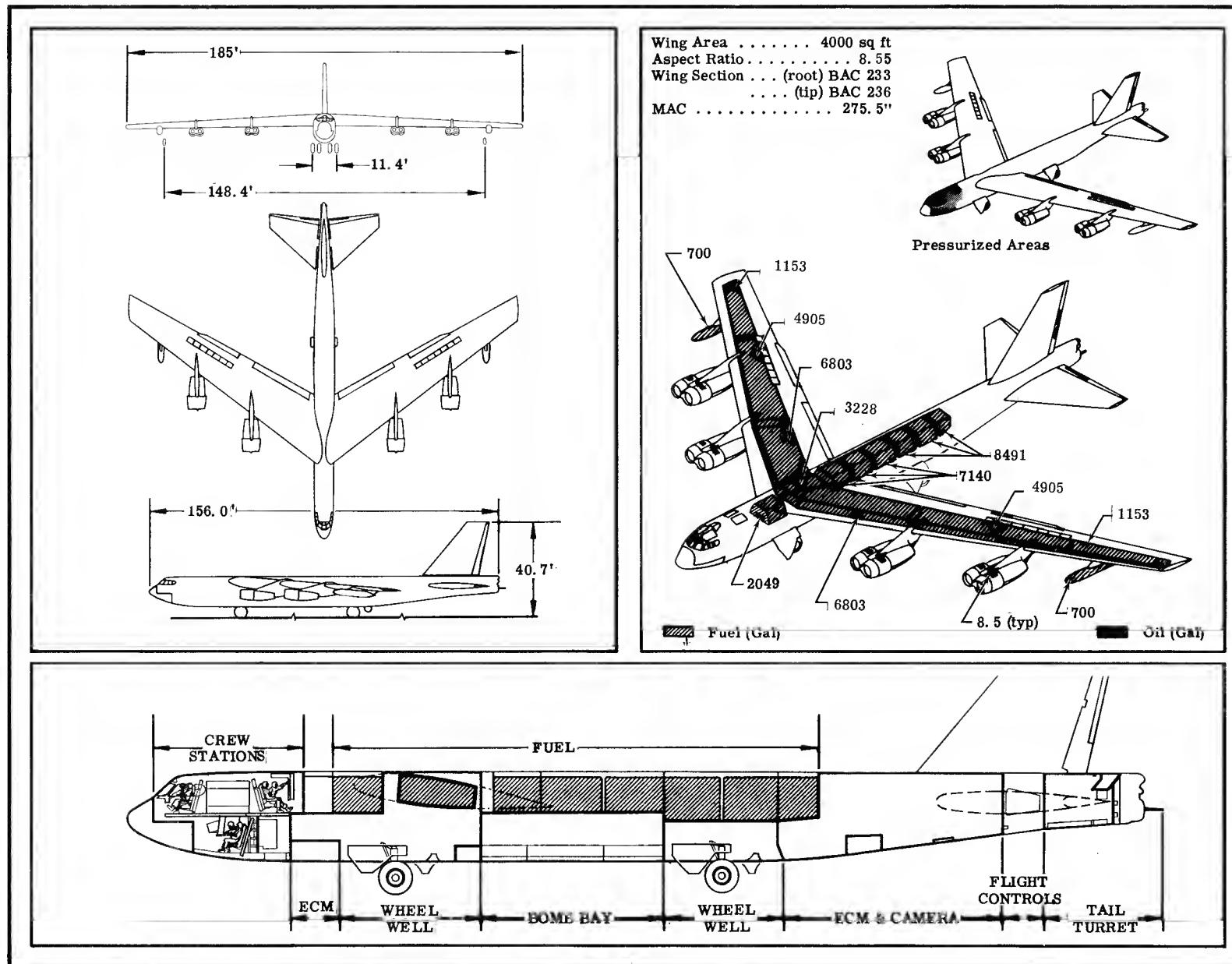


Standard Aircraft Characteristics

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

B - 52 H
STRATOFORTRESS
Boeing

EIGHT TF33-P-3
PRATT & WHITNEY



POWER PLANT

Nr & Model (8) TF-33-P-3
Mfr Pratt & Whitney
Engine Spec (15 Jul 60) . . . A1758D
Type Axial
Length 136.32 in.
Diameter 52.93 in.
Weight (Dry) 3900 lb.
Tailpipe Fixed Area
Note: At present there are no requirements for ATO.

ENGINE RATINGS

SL Static	LB	**RPM	MIN
Max:	*17,000	6550/10,050	5
Mil:	16,500	6470/10,000	30
Nor:	14,500	6150/	9750 Cont

**First figure represents low pressure spool; second figure represents high pressure spool.

*T.O. thrust at inlet temperature 59 to 100° F.

DIMENSIONS

Wing Span 185.0'
Dihedral (eboard plane) 2°30'
Incidence (root) 6°
Sweepback (LE) 36°58'
Length 156.0'
Height (overall) 40.7'
Height (fin folded) 21.5'
Tread (outtrigger) 148.4'
Tread (main gear) 11.4'

Mission and Description

Navy Equivalent: None

Mfr's Model: 464-261

The principal mission of the B-52H is the destruction of surface objectives. The normal crew of six consists of pilot, copilot, two bombardier-navigators, ECM operator, and gunner.

Automatic cabin pressurization, heating, and ventilation are provided for crew comfort. Ejection seats for emergency escape are provided for all the crew. Flight control is accomplished by the use of spoilers on the wing, elevators on the all-movable horizontal tail, and a rudder on the fixed vertical tail. The spoilers also function as airbrakes in descents and landing.

Other features are single-point ground and air refueling, anti-skid brakes, braking parachute for decreasing landing roll distance, a steerable landing gear to aid in crosswind takeoff and landing, and a liquid oxygen system. Major differences from the B-52G include TF-33-P-3 turbofan engines, deletion of water injection system, 120 KVA alternators, NI-CAD batteries, static transformer-rectifier (P.C. power supply), and AN/ASG-21 fire control system.

Development

Design initiated	Jan 59
First flight	Mar 61
First acceptance	Mar 61
Last assembly line production	Jun 62
Last production scheduled for acceptance	Sep 62
Out of production	Oct 62

BOMBS

No.	Class (lb)
27 (family of clusters)	1,000 (max.)
	MK-15
	MK-28
	MK-36
	MK-39
	MK-41

Note: Airplane will carry 4 GAM-72 and 2 GAM-77 missiles.

Last 18 a/c will have forward firing rocket launchers.

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WEIGHTS

Loading	Lb	LF
Empty	169,822	
Basic	172,222	
Design	*500,000	
Combat	**281,905	2.8
Max. Takeoff	***488,000	1.8
Design Inflight	±450,000	2.0
Alternate Inflight	±488,000	1.8
Design (Normal)	270,000	
Landing	270,000	

*Maximum Taxi Weight
**For Basic Mission
***Alternate In-Flight Performance
±Limited by Structure

FUEL

Location	No. Tanks	Gal.
Wing, Outbd	2	2306
Wing, Inbd	4	23,416
Wing, Ctr	1	3228
Fus, Fwd	1	2,049
Fus, Ctr	3	7,140
Fus, Aft	3	8,491
Wing, Ext	2	1,400
Total		48,030

Grade JP-4

Specification MIL-F-5624A

OIL

Nacelle	8	Total 68
Grade		Synthetic
Specification		MIL-L-7808C

GUNS

No.	Type	Size	Rds Ea	Loc
1	M-61	20mm	1242	Tail tur

CAMERAS

No.	Type	Lens
1	KS-32A	Radar Recording

ELECTRONICS

Command Radio Set	. . . . .	AN/ARC-34A
Aux UHF Radio	. . . . .	AN/ARC-34A
Liaison Radio	. . . . .	AN/ARC-58
Interphone	. . . . .	AN/AIC-18
Omni-Range Receiver	. . . . .	AN/ARN-14
Glide Path Receiver	. . . . .	AN/ARN-67
Marker Beacon Rec	. . . . .	AN/ARN-32
IFP Air to Ground	. . . . .	AN/APX-25A
Radar Beacon	. . . . .	AN/APN-69
Flare Dispenser	. . . . .	Boeing Spec
		10-30063
Bomb Nav System	. . . . .	AN/ASB-9A
Auto Astrocompass	. . . . .	MD-1
		See page 8 for additional equip.

B-52H

Loading and Performance—Typical Mission

C O N D I T I O N S		BASIC MISSION I	DESIGN LOAD II	MAX. BOMB LOAD - III	FERRY RANGE IV	ALTERNATE LOAD V	MISSILE LOAD VI
TAKE-OFF WEIGHT	(lb)	450,000	450,000	450,000	450,000	450,000	450,000
Fuel at 6.5 lb/gal (Grade JP-4)	(lb)	268,589	260,889	242,411	279,819	269,989	229,800
Payload (Bombs)	(lb)	10,000	17,700	35,400	0	8600	17,700
Payload (Chaff)	(lb)	960	960	960	0	960	960
Payload (Flares)	(lb)	270	270	270	0	270	270
Payload (Missiles)	(lb)					25,736	11
Wing loading	(lb/sq ft)	112.5	112.5	112.5	112.5	112.5	112.5
Stall speed (power off)	(kn)	147	147	147	147	147	147
Take-off ground run at S. L.	(ft)	6160	6160	6160	6160	6160	5370
Take-off to clear 50 ft	(ft)	8120	8120	8120	8120	8120	7250
Rate of climb at S. L.	(fpm)	3450	3450	3450	3450	3450	3570
Rate of climb S. L. (one engine out)	(fpm)	3410	3410	3410	3410	3410	3540
Time: S. L. to 20,000 ft	(min)	7.1	7.1	7.1	7.1	7.1	6.8
Time: S. L. to 30,000 ft	(min)	12.5	12.5	12.5	12.5	12.5	12.0
Service ceiling (100 fpm)	(ft)	39,050	39,050	39,050	39,050	39,050	39,300
Service ceiling (one engine out)	(ft)	38,000	38,000	38,000	38,000	38,000	38,300
COMBAT RANGE	(n mi)			8441			
COMBAT RADIUS	(n mi)	3890	3765	3470		3910	3105
Average cruise speed	(kn)	456	456	456	456	456	456
Initial cruising altitude	(ft)	33,600	33,600	33,600	33,600	33,600	33,600
Target speed	(kn)	472	472	472		472	470
Target altitude	(ft)	46,650	46,450	45,850		46,700	47,000
Final cruising altitude	(ft)	50,650	50,700	50,720	50,600	50,650	50,300
Total mission time	(hr)	17.2	16.7	15.4	18.0	17.3	13.7
COMBAT WEIGHT	(lb)	289,006	284,906	276,330	194,392	289,751	273,586
Combat altitude	(ft)	46,650	46,450	45,850	50,600	46,700	47,000
Combat speed	(kn)	487	491	499	509	487	493
Combat climb	(fpm)	645	765	1045	1495	615	800
Combat ceiling (500 fpm)	(ft)	47,200	47,500	48,100	55,200	47,200	48,200
Service ceiling (100 fpm)	(ft)	47,800	48,100	48,700	55,550	47,800	48,750
Service ceiling (one engine out)	(ft)	46,250	46,550	47,100	53,800	46,200	47,200
Max rate of climb at S. L.	(fpm)	6990	7100	7400	10,530	6970	7290
Max speed at optimum altitude	(kn/ft)	555/(20,700)	555/(20,700)	555/(20,700)	555/(20,700)	555/(20,700)	553/(20,500)
Basic speed at 35,000 ft	(kn)	524	524	524	528	524	521
LANDING WEIGHT	(lb)	193,819	193,426	193,277	194,392	193,891	197,408
Ground roll at S. L.	(ft)	2370	2370	2370	2390	2370	2420
Ground roll (auxiliary brake)	(ft)	2170	2170	2170	2190	2170	2210
Total from 50 ft	(ft)	4480	4480	4480	4490	4480	4540
Total from 50 ft (auxiliary brake)	(ft)	4270	4270	4270	4280	4270	4330

N	① Take-off Power	⑧ Initial buffet, flaps down, S. L.	PERFORMANCE BASIS: Estimated and substantiated by flight test of prototype B-52H airplane
O	② Military Power	⑨ GAM-77's at take-off power	
	③ Normal Power	⑩ GAM-77's at maximum continuous power	
T	④ Detailed descriptions of radius and range missions are given on page 8	⑪ 4 GAM-72's 4840 lb	
E	⑤ Limited by structure (load factor = 2.0)	Droppable racks 590 lb	
S	⑥ With drag chute	2 GAM-77A's 20,306 lb	
	⑦ Does not include fuel for 5 min at NRT (5130 lb)	Total 25,736 lb	

Loading and Performance—Typical Mission

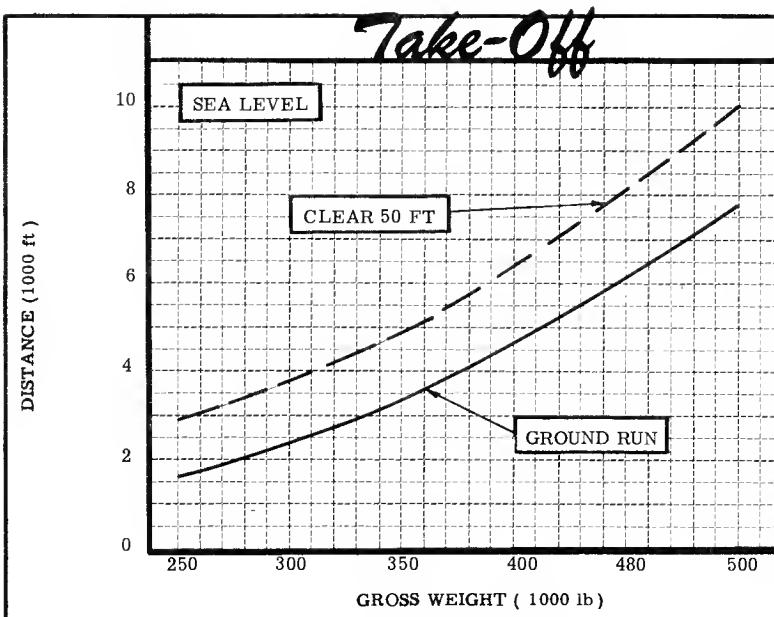
C O N D I T I O N S		BASIC MISSION I	DESIGN LOAD II	MAX. BOMB LOAD - III	FERRY RANGE IV	ALTERNATE LOAD V	MISSILE LOAD VI
TAKE-OFF WEIGHT	(7)	(lb)	488,000	5	488,000	5	488,000
Fuel at 6.5 lb/gal (Grade JP-4)		(lb)	306,589	298,889	280,411	312,195	307,989
Payload (Bombs)		(lb)	10,000	17,700	35,400	0	8600
Payload (Chaff)		(lb)	960	960	960	0	960
Payload (Flares)		(lb)	270	270	270	0	270
Payload (Missiles)		(lb)					25,736
Wing loading		(lb/sq ft)	122	122	122	122	122
Stall speed (power off)	(8)	(kn)	153	153	153	153	153
Take-off ground run at S. L.	(1)	(ft)	7420	7420	7420	7420	6480
Take-off to clear 50 ft	(1)	(ft)	9580	9580	9580	9580	8500
Rate of climb at S. L.	(3)	(fpm)	3110	3110	3110	3110	3220
Rate of climb at S. L. (one engine out)	(2)	(fpm)	3070	3070	3070	3070	3190
Time: S. L. to 20,000 ft	(3)	(min)	8.0	8.0	8.0	8.0	7.6
Time: S. L. to 30,000 ft	(3)	(min)	14.3	14.3	14.3	14.0	13.6
Service ceiling (100 ft/min)	(3)	(ft)	37,400	37,400	37,400	37,600	37,600
Service ceiling (one engine out)	(2)	(ft)	36,300	36,300	36,300	36,550	36,600
COMBAT RANGE	(4)	(n mi)				8810	
COMBAT RADIUS	(4)	(n mi)	4260	4145	3865	4285	3480
Average cruise speed		(kn)	456	456	456	456	456
Initial cruising altitude		(ft)	31,950	31,950	31,950	32,200	31,950
Target speed		(kn)	472	472	472	472	470
Target altitude		(ft)	45,800	45,550	45,000	45,850	46,150
Final cruising altitude		(ft)	50,450	50,500	50,500	50,450	50,100
Total mission time		(hr)	18.8	18.3	17.0	19.4	18.8
COMBAT WEIGHT		(lb)	302,973	298,923	290,340	196,045	303,716
Combat altitude		(ft)	45,800	45,550	45,000	50,450	45,850
Combat speed	(2)	(kn)	486	490	499	485	491
Combat climb	(2)	(fpm)	620	740	1015	1500	760
Combat ceiling (500 ft/min)	(2)	(ft)	46,300	46,650	47,100	55,000	46,250
Service ceiling (100 ft/min)	(3)	(ft)	46,900	47,150	47,700	55,350	46,850
Service ceiling (one engine out)	(3)	(ft)	45,400	45,600	46,200	53,600	45,300
Max rate of climb at S. L.	(2)	(fpm)	6640	6730	6960	10,450	6630
Max speed at optimum altitude	(2)	(kn/ft)	555/(20,700)	555/(20,700)	555/(20,800)	555/(20,700)	553/(20,500)
Basin speed at 35,000 ft	(2)	(kn)	523	523	523	528	521
LANDING WEIGHT		(lb)	195,758	195,365	195,216	196,045	195,829
Ground roll at S. L.		(ft)	2390	2390	2390	2400	2400
Ground roll (auxiliary brake)	(6)	(ft)	2180	2180	2180	2190	2190
Total from 50 ft		(ft)	4510	4510	4510	4520	4560
Total from 50 ft (auxiliary brake)	(6)	(ft)	4290	4290	4290	4300	4340

- | | | | |
|---|--|---|---|
| N | (1) Take-off power | (9) GAM-77's at take-off power | PERFORMANCE BASIS:
Estimated and substantiated by flight test of prototype B-52H airplane. |
| O | (2) Military power | (10) GAM-77's at maximum continuous power | |
| T | (3) Normal power | (11) 4-GAM-72's 4840 lb | |
| E | (4) Detailed descriptions of radius & range missions are given on page 8 | Droppable racks 590 lb | |
| S | (5) Limited by structure (load factor = 1.8) | 2 GAM-77A's 20,306 lb | |
| | (6) With drag chute | (12) Limited by fuel capacity | |
| | (7) Does not include fuel for 5 min at NRT (5130 lb) | | |
| | (8) Initial buffet, flaps down, S. L. | | |

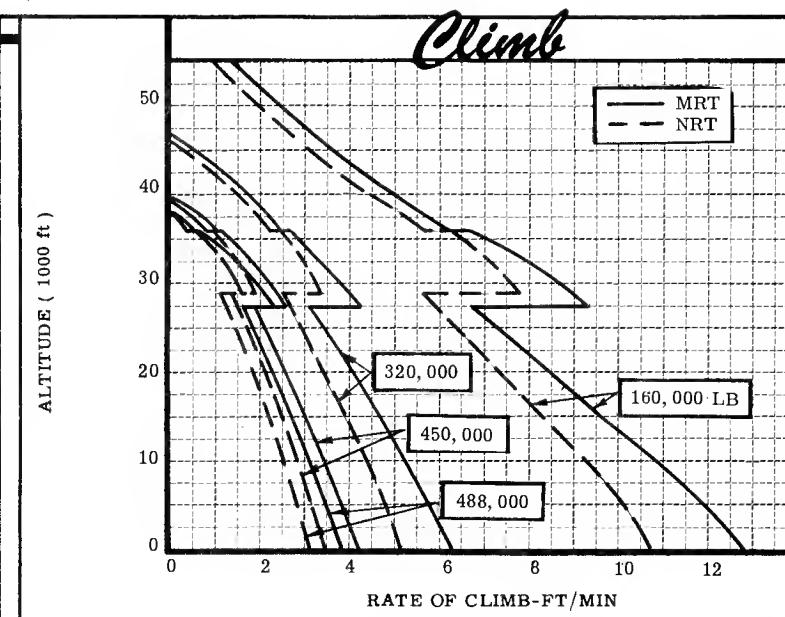
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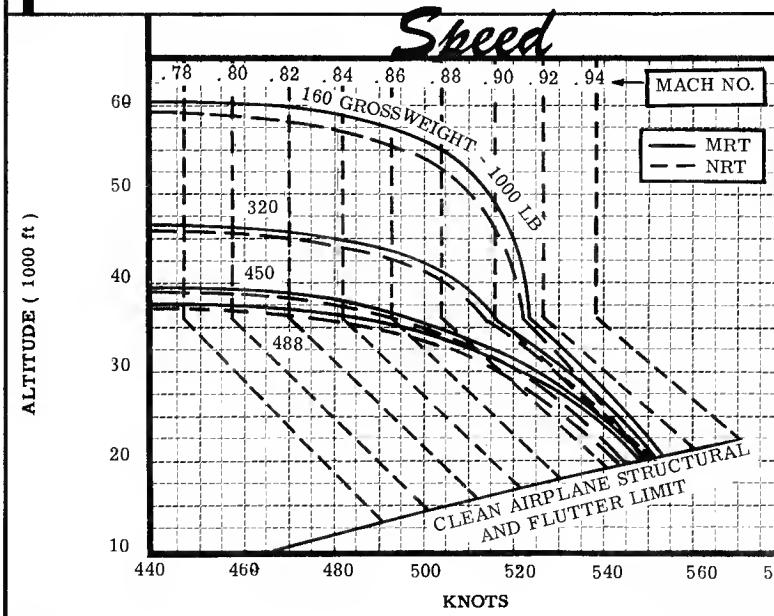
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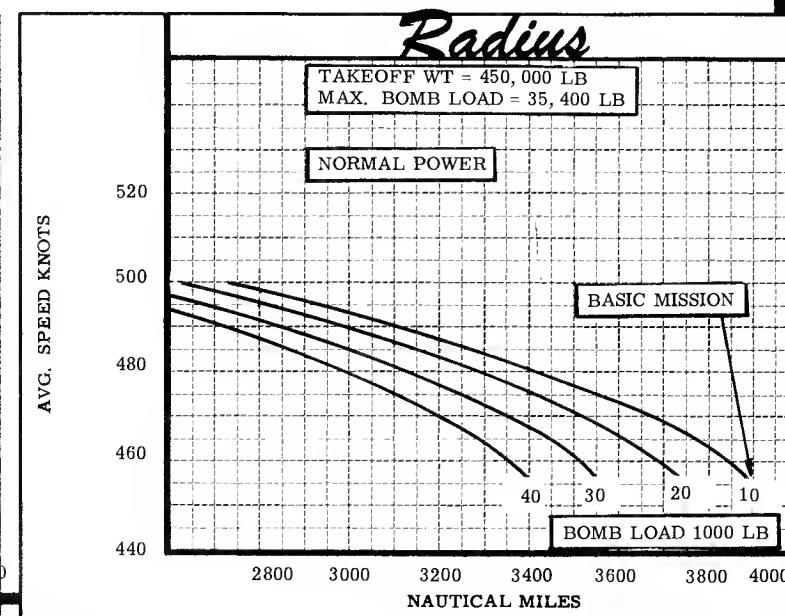
Climb



Speed



Radius



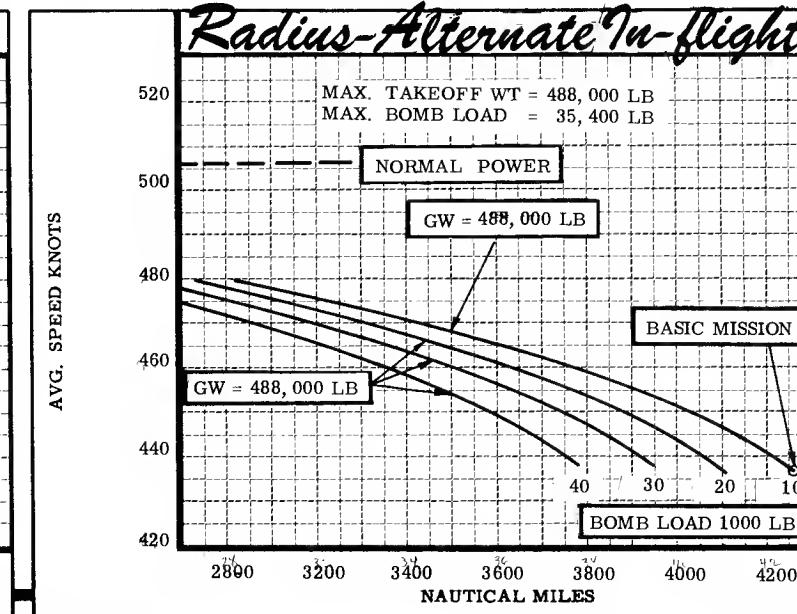
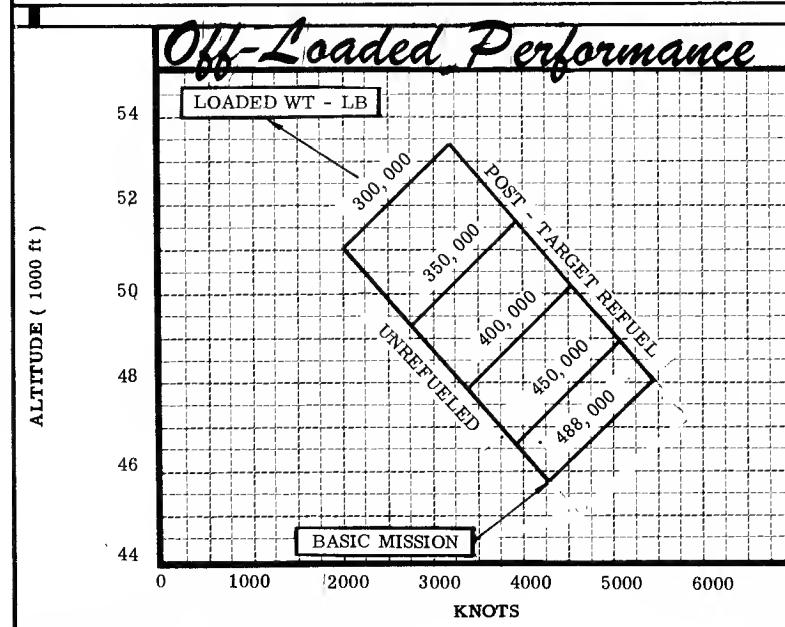
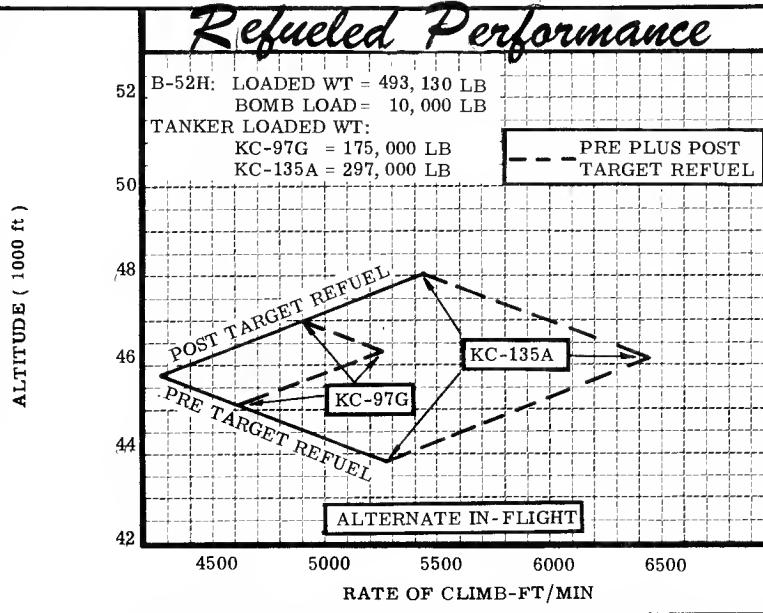
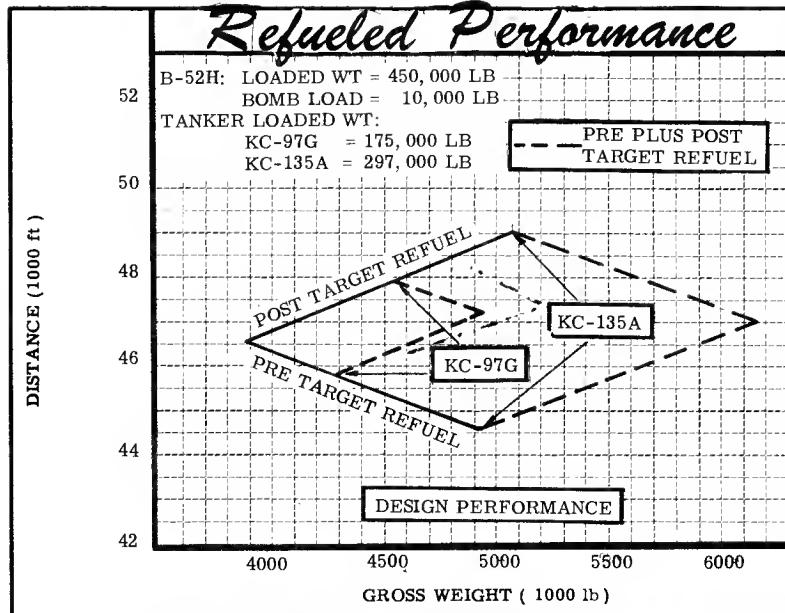
B-52H

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N O T E S

FORMULA: BOMBER RADIUS MISSIONS I, II, III, & V

Take off and climb on course to optimum cruise altitude at normal power. Cruise out at long range speed*, increasing altitude with decreasing weight. Climb so as to reach cruise ceiling 15 minutes from target. Run into target at normal power, drop bombs, conduct 2 minutes evasive action, and 8 minutes escape at normal power. Cruise back to home base at long range speeds*, increasing altitude with decreasing airplane weight. Range-free allowances include 5 minutes normal power fuel consumption for starting engines and takeoff, 2 minutes normal power fuel consumption at combat altitude for evasive action, and 30 minutes of maximum endurance (four engines) fuel consumption at sea level plus 5% of initial fuel for landing reserve.

FORMULA: BOMBER RANGE MISSION IV

Take off and climb on course to optimum cruise altitude at normal power. Cruise out at long range speeds*, increasing altitude with decreasing weight until all fuel is consumed. Range-free allowances include 5 minutes normal power fuel consumption for starting engines and takeoff, and 30 minutes of maximum endurance (four engines) fuel consumption at sea level plus 5% of initial fuel for landing reserve.

FORMULA: BOMBER RADIUS MISSION VI

Take off and climb on course to optimum cruise altitude at normal power (GAM-77's at maximum continuous power). Cruise out at long range speed*, increasing altitude with decreasing weight. Release GAM-77's and GAM-72's their respective ranges from bomb target. Climb so as to reach cruise ceiling 15 minutes from target. Run into target at normal power, drop bombs, conduct 2 minutes evasive action, and 8 minutes escape at normal power. Cruise back to home base at long range speeds*, increasing altitude with decreasing airplane weight. Range-free allowances include 5 minutes normal power fuel consumption for starting engines and takeoff, 2 minutes normal power fuel consumption at combat altitude for evasive action, and 30 minutes of maximum endurance (four engines) fuel consumption at sea level plus 5% of initial fuel for landing reserve.

*Long range speed is maximum speed for 99% maximum miles per pound of fuel.

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Wright-Patterson Air Force Base
Ohio 45433

GENERAL DATA:

(a)The prescribed fuel reserves for Basic Missions are equivalent to the following reserve ranges at 99% maximum range conditions:

B-52H Bomber	974 Nautical Miles
	1060 Nautical Miles (Alternate In-Flight)

(b)The following electronic equipment is supplemental to that shown under "Electronics" on Page 3:

True Hdg Comp Gr	AN/AJN-8
Grd Spd & Drift Angle Rdr	AN/APN-89
Fire Control System	AN/ASG-21
TACAN	AN/ARN-21
Chaff Dispenser (2)	Boeing Spec
ECM Receiver	AN/ALR-19
ECM Receiver (2)	AN/ALR-18
ECM Transmitter (3); (2) Hi; (1) Lo	AN/ALT-15
ECM Transmitter (2)	AN/ALT-16
ECM Transmitter (4)	AN/ALT-68
ECM Transmitter (6)	AN/ALT-13

(Complete Provisions only)

VGH Sig Data Rec Set	A/24U-3
	(Space Provisions only)

IFF Air to Air	AN/APX-27B
IFF Air to Air Interrogator Fwd Coverage	
IFF Air to Air Interrogator Aft Coverage	

PERFORMANCE REFERENCE:

Boeing Document D3-3211, "Substantiating Data Report - Model B-52H"
TF33-P-3 engines.

REVISION BASIS:

To reflect increase in empty weight and resulting performance changes due to ECP 1050 incorporation.